

Work Order ID 141669-2

February 08, 2016 3:53:20 PM

Split-2

141669

Skids to ship Mar 14

Page 1

Item ID: D2918-1
 Revision ID:
 Item Name: Saddle LH
 Start Date: 2/8/2016 Start Qty: 9.00
 Required Date: 2/22/2016 Req'd Qty: 9.00
 Reference:

Accept *N9000040100* Setup Start *NS1*
 Stop *NS2*

Q 5 6.0
 Q
 Cust Item ID:
 Customer:

Approvals: Process Plan: SA Date: 20160209 Tooling: Date:
 QC: Date: SPC (Y/N): Date:

Run Start *NR1*
 Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2918	Rev B								

100	HAAS CNC VERTICAL MACHINING #1	0.00							
100									
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	Program batch number Machine Step No 1 as per Folio FA441 and visually inspect as per Dwg D2918 & attached Dimension Sheet Machine Step No 2 as per Folio FA441 and visually inspect as per Dwg D2918 & attached Dimension Sheet Machine Step No 3 as per Folio								
110	CONVENTIONAL MILLING MACHINE	0.00							
110									
Mill Conv	Memo	0.00							
Conventional Milling Machine	Machine Keyway and inspect per Dwg D2918 & attached dimension sheet								
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120									
QC	Memo	0.00							
Quality Control									

B.a 16/03/23
 (split 2 only)

6 4 1

16-03-09

B.a 16/03/23
 (split 2 only)

6 4 0

DAS
 20
 9-89 16-03-09

B.a 16/03/23
 (split 2 only)

6 4 0

16-03-09

DQA:

Date: 16.05.10



QA Closed:

Date: 16/05/10

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: 141669		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. D2918-1		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. 16-5676		Scrap ☒		Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date: 16-02-29		Step #: 100		QTY Effective: 1			MRB (QSI042) Approval		
							16/03/01		
Description Work Order Deviation				Disposition				Completed By	
Operator changed wrong "Z" value In the program. Part height is now under tolerance. RC Program Error - missing final pass.				• Scrap & Destroy • Update Program to fix issue				16/03/01	
								Lead hand / Supervisor	
								Approval Verification	
								QC / QA Coordinator	
								24S Approval	
								16/03/01	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	☒ Folio/Program	Outside Dimensions ☐				
Doc/Data ☒	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Work Order ID 141669

141669

Page 2

Item ID: D2918-1 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Saddle LH
 Start Date: 2/8/2016 Start Qty: 9.00 *Q* Cust Item ID:
 Required Date: 2/22/2016 Req'd Qty: 9.00 *Q* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00	A. 16/03/09 Jed 16-03-24.			4 6	0 0		DAS 08 9-89 DAS 45 2016-3-24. 9-89
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00				4	0	16-3-10	LL x60 16/03/24
150 *150* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum M. 13962 Memo START TIME: 9:00 OVEN TEMPERATURE: 320° FINISH TIME: 9:00 START: 10:30 OVEN T: 320° FINISH: 11:00.	0.00 0.00				4	0	16-03-14.	DAS 34 9-89 6 0 16-03-24. DAS 34 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				OTHER : ☐	

Work Order ID 141669

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141669

Page 3

Item ID: D2918-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle LH
 Start Date: 2/8/2016 Start Qty: 9.00 ***Q*** Cust Item ID:
 Required Date: 2/22/2016 Req'd Qty: 9.00 ***Q*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<u>4</u> <u>6</u>			DAS 38 2-22 MAR 14 2016 38 2-22 MAR 24 2016
170 *170* Packaging Packaging	Identify as per dwg & Stock Location: <u>ST1106</u> Memo	0.00 0.00				<u>6</u> <u>4</u>	<u>DAS</u> <u>6</u> 2-22		MAR 15 2016
180 *180* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							DAS 6 2-22 MAR 24 2016 MCS MAR 24 2016

MCS MAR 24 2016
 MAR 14 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			

Date :	Step #:	QTY Effective :	MRB (QSI042) Approval
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Description Work Order Deviation	Disposition	Completed By
		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐					
Misidentified ☐	Past Due ☐						

Picklist Print

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Page 1

Work Order ID: 141669

141669

Parent Item: D2918-1

D2918-1

Parent Item Name: Saddle LH

Start Date: 2/8/2016

Required Date: 2/22/2016

Start Qty: 9.00

Required Qty: 9.00

Comments: IPP: A04.07.16New IssueKJ/JLM
IPP B 07.08.07 ECN930 EC verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6102-011		Manufactured	No			100	Each	9.0000	1	9			
										**			
SL 16-3-22 On 16/02/29													

	<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
	MAT040	9	
	75834	9	
D6102-011RevD	Manufactured	No	
		100	Each
		0.0000	1

D6102-011RevD

Saddle Billet

**

142130

6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

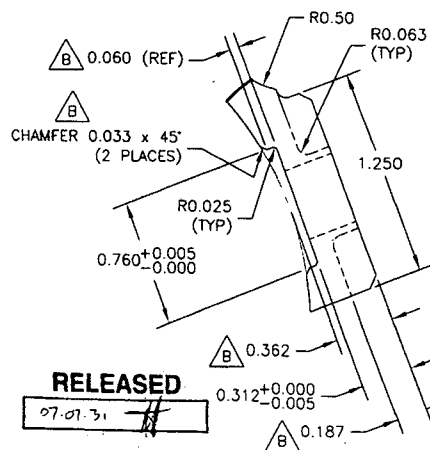
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : _____									

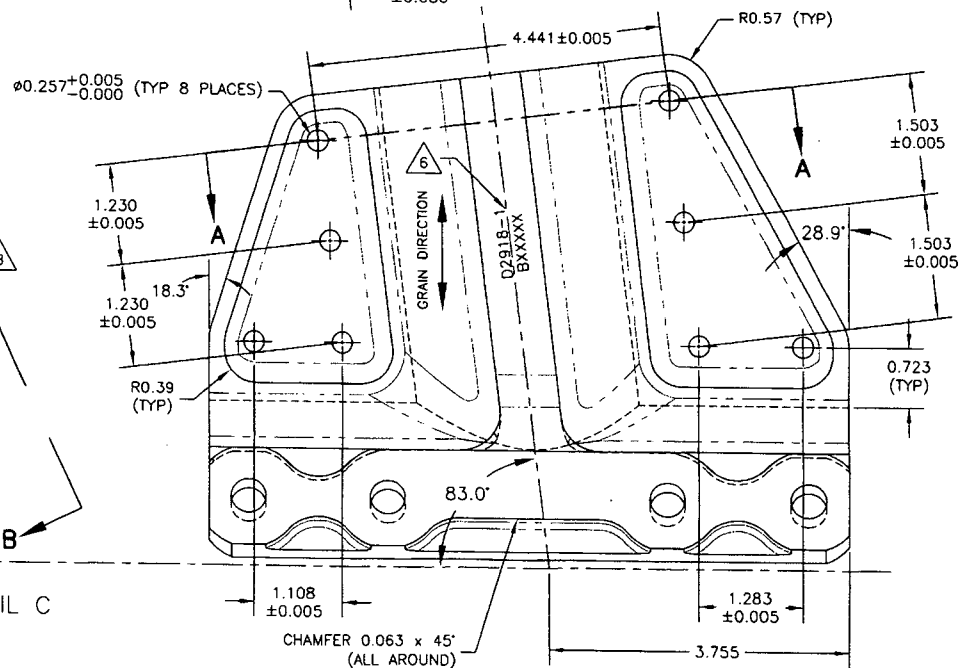
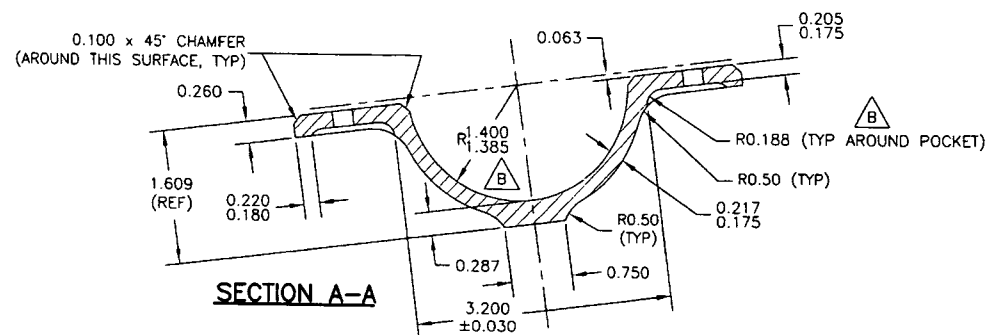


D2918-1 LH SADDLE (SHOWN)
D2918-2 RH SADDLE (OPPOSITE)

1) MATERIAL: ALUMINUM 5061-T6/7651 PER QQ-A-250/111
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
3) BREAK ALL SHARP EDGES 0.010 TO 0.020
4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
5) ALL DIMENSIONS ARE IN INCHES
6) ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010
7) ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD 0.125



DETAIL C 
SCALE 4:3



20160205
SH14

B	07.02.19	ADD 0.362, 0.187, 0.060, CHAMFER; ADD DETAIL C; R0.188 WAS R0.30; ADD TOL TO R2.000; ADD NOTES	
29A	04.05.31	NEW ISSUE	
DESIGN 9P	DRAWN BY CB	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED PH	APPROVED H	DRAWING NO. D2918	REV. B SHEET 1 OF 1
DATE 07.02.19		TITLE SADDLE	SCALE 2:3

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DART AEROSPACE LTD.

Inspect dimensions highlighted on inspection sheet drawing and record below:

Measured by:	<i>[Signature]</i>
Date:	16-3-24

Rev	Date	Change	Revised by	Approved
A	04.08.12	New Issue	KJ/JLM	
B	08.02.28	Dimension 'R' revised	KJ/DD	
C	08.11.27	Dimension 'AB, AC' added	KJ/JLM	

Inspect dimensions highlighted on inspection sheet drawing and record below:

Rev	Date	Change	Revised by	Approved
A	04.08.12	New Issue	KJ/JLM	
B	08.02.28	Dimension 'R' revised	KJ/DD	
C	08.11.27	Dimension 'AB, AC' added	KJ/JLM	

Inspect dimensions highlighted on inspection sheet drawing and record below:

**DAS
45**

DAS

H:\so\forms\dimension sheets\approved DS\Blank-DimSheet rev A.doc